R E P O R T R E S U M E S

ED 015 850 RE 001 062

RAPID READING--PROBLEMS, PARAMETERS, AND PROSPECTS.

BY- HULTGREN, DAYTON D.

PUB DATE DEC 67

EDRS PRICE MF-$0.25 HC-$0.44 9P.

DESCRIPTORS- *RAPID READING, *READING COMPREHENSION, *VISUAL MEASURES, EYE MOVEMENTS, READING PROCESSES, FUNCTIONAL READING, UNIVERSITY OF MINNESOTA,

AN EXPLORATION OF COMPREHENSION AND RAPID READING IS PRESENTED. THE QUALITY OF READING IS DISCUSSED FROM THE STANDPOINT OF EFFICIENCY AND EFFECTIVENESS. RESEARCH FINDINGS WHICH INDICATE THE LOW COMPREHENSION RESULTING FROM "DYNAMIC" READING, THAT IS, READING DOWN THE CENTER OF THE PAGE WITH NO LEFT-TO-RIGHT EYE MOVEMENTS, ARE CITED. VISUAL ACUITY, USEABLE SPAN OF RECOGNITION, AND LENGTH OF FIXATION ARE CONSIDERED AS COMPREHENSION CONTROLS WHEN READING MORE THAN 800 WORDS PER MINUTE. IT IS CONCLUDED THAT ACCORDING TO VISUAL SURVEY BEHAVIOR, RATES ORDINARILY ASSOCIATED WITH RAPID READING CAN BE CONSIDERED ONLY A MASTERFUL FORM OF SKIMMING. THIS PAPER WAS PRESENTED AT THE NATIONAL READING CONFERENCE (TAMPA, NOVEMBER 30 - DECEMBER 2, 1967). (MC)

ED015850

NRC, Tampa

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Rapid Reading: Problems, Parameters, and Prospects (R2-3P)

Dayton D. Hultgren

University of Minnesota

RE 001 062

Stanley Soles, in the Phi Delta Kappan (13), discussed at some length the educational quackery that is emerging external to our schools. It is still not clear whether many of these enterprises are legitimate quasi-educational enterprises or whether they are charlatan operations designed to exploit the public and our school staffs. It is clear that we in the reading field are especially susceptible to their exploitations, on the one hand, while we engage in our own bit of quackery, on the other.

This is most evident in the area of reading improvement, where newspaper and magazine ads, brochures, radio and television spot announcements, and, for that matter, full page spreads in some of our own professional journals, are geared to sell our services and products to a not too discriminating public.

The comedian-actor, Woody Allen, bears testimony to the apparent success of these efforts when he reportedly said: "I took a course in speed reading, learning to read straight down the middle of the page, and I was able to go through War and Peace in twenty minutes. It's about Russia!"

Specifically, in this area of so-called rapid reading, we tend to exhibit a strange penchant for mixing science and superstition, fact and fantasy. What do we know about the improvement of reading behavior? How serious are we in developing a systematic body of scientific knowledge about that which we commonly call rapid reading? It is apparent that much of the current confusion and conflict in the literature emanates from this phrase: "...that which we commonly call rapid reading". How is the word "reading" used in our profession? In reference to the subject under consideration here today?

At the 1964 annual meeting of the National Reading Conference the following definition, representative of those in the literature, was given: "gaining meaning from the printed page at a rate of 1,200 or more words per minute" (12). The author further indicated he placed no upper limits on the rate.

A careful examination of this definition leads to two observations which are worth exploring here today.

The first observation pertains to the adequacy of comprehension as "the only real and meaningful gauge" of reading competence at the high rates of coverage.

If one seriously attempts to assess the quality of reading, it seems clear that comprehension gets at only one facet of the problem: effectiveness, or the ability to understand and to satisfactorily complete an assigned reading task. There seems to be little disagreement that comprehension measures can be used to assess effectiveness. But there is a second facet of quality reading which is not dealt with by comprehension measures: efficiency, or the

nature of the perceptual activity employed by the reader while carrying out the reading act (18). This dimension demands equal consideration. And in order to explore this dimension of assessment it is necessary to admit the legitimacy and relevance of eye-movement research. Excellent histories of the development of this technique are found in the works by Huey (8), Carmichael and Dearborn (2), and Taylor (18). For that matter, the question of the reliability and validity of eye-movement records obtained by the photographic method has been thoroughly investigated and substantiated by Anderson (1), Morse (10), Tinker (20), Gilber (5), and Dixon (3).

Also, those who insist that comprehension, or effectiveness, is the sole meaningful measure of reading competence are faced with the necessity of explaining the following research findings. Spache (15) recorded the eye movements of students before and after training in a well-known speed reading program. Using the Reading Eye, records were obtained on the act of reading one of the test selections supplied for use with the camera and on the act of skimming the pages of a book. Comprehension checks by true-false questions accompanied both types of reading. He found that comprehension in the test selections was normal (70% or better) before and after training, with an average gain of less than 5%; and that comprehension in skimming was weak, averaging about 50% after training. Taylor (17) found in his evaluation of the trainees who completed a well-known speed reading course that the slowest readers had the best comprehension and those who truly read "dynamically" (that is, down the center of the page with no left-to-right eye movements) had comprehension scores on a true-false test of less than 50%, less than that which could be attained by a blindfolded monkey with a pencil.

Therefore, it is essential to discuss the quality of reading, rapid or otherwise, from the standpoint of efficiency as well as effectiveness. The

alternative is to be caught up in a sea of semantic confusion and professional embarrassment.

A second observation has to do with the suggestion that all reading is really of the same type, except for variations in rate.

To check the validity of this assumption it is necessary to review some all-too-familiar facts.

There is the age-old discussion of whether or not it is necessary to see all the words one is reading. While it must be conceded that some words are more important carriers of meaning than others, how is it possible in advance or apart from the reader's making contact with the printed words, to select out the important words which are to receive his attention in reading? It must further be recognized that a reader's vision is so reduced while his eyes are in motion that it is impossible for recognition in any meaningful sense to occur. He can absorb print only when his eyes are stopped.

What about visual acuity and span of recognition? As a reader's eyes stop at any given point along a line of print, only 4-5 letters immediately around the fixation point are seen with 100% acuity. From this point of clearest vision outward in either direction words and their letters are seen with decreasing clarity, so that words which occur one inch from the fixation point are seen with only 30% acuity (15) (18). This typical fall off of visual acuity leads to the conclusion that the useable span of recognition of readers is only about 1.1 words and explains why even the most superior readers, trained or untrained, seldom achieve a useable span of recognition of over 2.5 words (6).

If reading is interpreted to mean "reading most of the words on a page", the time is also a significant factor in reading. There is ample evidence to suggest than any other definition is not very helpful (15) (22) (5) (21). The sheer mathematics of the situation (1/5 second duration per fixation; 1/25

second per sweep to the next fixation; acuity of 2.5-3 words per fixation; and 1/25 second for a return sweep to the next line) reveals that it is impossible to read more than about 800 words per minute.

There is one interesting finding reported by Dixon (3) in his study of eye movements of forty-eight University of Michigan professors, individuals who had chosen scholarship as a career and who should be among the best readers. Actually, the subjects in this study didn't read as skillfully as might be supposed. The average rate on all passages read was 303 words per minute with 6.5 fixations per line. Only five subjects were found to have read at least 500 words per minute. Of the five, only one subject maintained a speed of 500 words per minute on all passages. That one subject happened to be an individual who had the reputation for being able to read a line or a paragraph at a glance, in "gulps and chunks". An analysis of his records revealed no evidence of single eye-fixations per line or paragraph. This super speed reader was invited for further testing, involving materials ranging in difficulty from the primary to the college level without formal comprehension checks, to remove suspicion that the earlier materials were too difficult and the comprehension checks hampered his speed. Again, there was no evidence of single fixations per line or paragraph and the fastest rate achieved on the supplementary tests did not exceed 600 words per minute. Dixon concludes "it seems clear that this subject read in the conventional manner, in that he makes several fixations per line as well as occasional regressions". No evidence was found to support the contention that there are individuals who are able to read in single fixations per line or paragraph.

If all reading behavior is not similar at all rates, what is the so-called reader doing when he goes through a book so rapidly he never stops turning the pages? The subjects in Dixon's study (3) did not actually exhibit any such

reading behavior. The subjects in studies by Grayum (7), McDonald (9), and Taylor (17) were found to employ distinctly different approaches or performances (fewer fixations of increased duration, random and unpredictable visual survey behavior) in carrying out tasks at rates ordinarily associated with rapid reading. One can conclude that they are not really reading, but rather are engaging in a masterful form of skimming. Unless the material is extremely familiar, the individual cannot stand much of a test on the material.

This discussion of these observations leads to the pondering of the following questions:

1. How do we account for the fact of hard research evidence which places specific physiological limits on reading behavior?
2. What good is it all, even if you could get people to involve themselves in a process called rapid reading, when comprehension drops off as a result?
3. How able are we to demand hard research to support what we say and do in the so-called speed reading area?
4. How willing are we, professionally, to live within the limits of those research findings?

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